MULTIMEDIA UNIVERSITY

STUDENT ID NO

MULTIMEDIA UNIVERSITY

FINAL EXAMINATION

TRIMESTER 1, 2021/2022

BAC3684 – SECURITY INVESTMENTS AND PORTFOLIO MANAGEMENT

(All Sections/Groups)

20 NOVEMBER 2021
09.00a.m–12.00p.m
(3 Hours)

INSTRUCTIONS TO STUDENT

1. This question paper consists of 4 pages with 4 questions only.

2. Attempt **ALL** questions. All questions carry equal marks and the distribution of the marks for each question is given.

3. Please write all your answers in the Answer Booklet provided.

QUESTION 1

A. James Dulebohn is considering investing his money in Stock Maxis and Stock Celcom. The current market price of Celcom today is RM7.50. The share price of Celcom is expected to be RM6 next year if the economy is in recession, RM8.25 if the economy is normal and RM9 if the economy is expanding. The chances of the economy being in recession, normal and expanding are 0.10, 0.80 and 0.10, respectively.
Show all your working steps.

Stock Celcom does not pay any dividend. Other relevant information is as follows:

Standard deviation of returns of the market portfolio	0.10
Standard deviation of returns of Stock Maxis	0.12
Expected return on Stock Maxis	0.09
The correlation of Stock Celcom and the market	0.80
The correlation of Stock Maxis and the market	0.10
The correlation of Stock Maxis and Stock Celcom	0.60

i. Calculate the expected return and standard deviation of returns for Stock Celcom.
(8 marks)

ii. Determine the expected return and standard deviation of a portfolio consisting of 40 percent Stock Maxis and 60 percent Stock Celcom.
(5 marks)

B. Diversification is the key to effective risk management. Explain why most investors hold diversified portfolios.
(5 marks)

C. Over the past five years, Nancy owned two stocks that had the following annual rates of return:

Year	Stock MRDIY	Stock NESTLE
1	0.19	0.08
2	0.08	0.03
3	-0.12	-0.09
4	-0.03	0.02
5	0.15	0.04

She looks for you to compute the geometric mean rate of return for each stock. Which stock is most desirable by this measure? Justify your answer.
Show all your working steps.

(7 marks)

(Total: 25 marks)

Continued …

QUESTION 2

A. Interest rate projections have been used in investment management for a variety of purposes. Discuss **THREE (3)** significant reasons why interest rate forecasts may be important in reaching investment conclusions.

(6 marks)

B. Global Corns Company's (GCC) latest annual dividend of RM1.25 a share was paid yesterday and maintained its historic 7 percent annual rate of growth. You plan to purchase the stock today because you believe that the dividend growth rate will increase to 8 percent for the next three years and the selling price of the stock will be RM40 per share at the end of that time.
Show all your working steps.

i. How much you should be willing to pay for the GCC stock if you require a 12 percent return?

(9 marks)

ii. What is the maximum price you should be willing to pay for the GCC stock if you believe that the 8 percent growth rate can be maintained indefinitely and you require a 12 percent return?

(3 marks)

iii. If the 8 percent rate of growth is achieved, what will the price be at the end of year 3, assuming the conditions in part (ii)?

(3 marks)

C. The efficiency of capital markets has implications for the investment analysis and management of your portfolio. Describe two different ways to test for weak-form efficiency.

(4 marks)

(Total: 25 marks)

QUESTION 3

A. Medica Berhad is one of the listed companies in Bursa Malaysia that operates in the pharmaceutical industry. The recent Covid-19 pandemic has caused Medica earnings to grow rapidly. The company which generates about RM50 million a year in revenues has a net asset of RM525 million and stockholder's equity of RM300 million. Calculate the return on equity for this company if the company has a total debt of RM225 million and the return on asset is 10.4 %. Based on your results, calculate the earnings growth rate for Medica if the company's retention rate is 60%.
Show all your working steps.

(6 marks)

Continued …

B. A fund manager gives you the following data and asks you to analyse it using Moving Average. He also asks for your recommendation on whether to keep or sell the stock. First, calculate the 5-days Moving Average for days 5 through 10 and then advise the fund manager which days showed the buy signal and sell signal based on your result. Why do you say so?
Show all your working steps.

Day	High (RM)	Low (RM)	Close (RM)
1	89.80	87.80	87.88
2	89.90	87.80	89.38
3	87.50	85.70	87.31
4	89.10	87.50	87.81
5	90.30	87.75	88.13
6	89.10	86.70	88.81
7	88.40	85.50	86.75
8	90.60	85.40	85.44
9	91.10	88.60	89.50
10	92.70	88.10	89.31
11	91.90	90.10	91.31
12	91.75	89.25	89.50
13	92.25	89.60	90.81
14	92.75	90.40	92.00

(11 marks)

C. As a bond analyst, you are given a TM Bond which pays a 9% coupon payment semi-annually to analyse. Calculate the bond's yield to maturity and yield to call if the bond has 20 more years to maturity, is callable in 10 years at RM1,090, and sells for RM1,200.
Show all your working steps.

(8 marks)

(Total: 25 marks)

Continued …

QUESTION 4

A. On 1st October 2021, Sarah decided to buy a European put option contract on 2 lots of DRB shares which expires on 31st December 2021. The exercise price for this put option is RM 7, and the option premium is RM 0.20 per share.
Show all your working steps.

i. Calculate the net gain to Sarah; if at the time of expiration, the market price of DRB shares is in the range between RM 4 and RM 10. Explain when Sarah should or should not exercise the put option. Ignore short-term interest rates and sales commissions.

(14 marks)

ii. What is the breakeven price for this put option?

(3 marks)

B. Trading in futures contracts is considered as riskier than trading in stocks. Briefly explain **eight (8)** other differences between trading in stocks and trading in futures contracts.

(8 marks)

(Total: 25 marks)

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